

WHAT IS CLAIMED IS:

1. A coating apparatus which forms a plurality of layers on a continuously travelling base material, comprising:

an upstream-side coating section which coats a first coating liquid to the base material to form a lower layer;

a downstream-side coating section disposed at the downstream side of the upstream-side coating section in a direction to which the base material is conveyed, and coating, onto the lower layer, a second coating liquid of which composition is the same as or different from that of the first coating liquid, to thereby form an upper layer;

an undercoat liquid coating section disposed so as to move close to or away from the base material,

when an uncoated portion, which is a portion to which no first coating liquid is coated, is generated at a time of forming the lower layer, the undercoat liquid coating section being contacted the base material before the uncoated portion reaches the undercoat liquid coating section, and coating an undercoat liquid to the uncoated portion, and

when coating of the first coating liquid is restarted, the undercoat liquid coating section being removed from the base material after a lower layer formed again reaches the undercoat liquid coating section, and stopping coating of the undercoat liquid; and

a liquid run-out section which, at the latest, just

before the undercoat liquid coating section is removed from the base material, stops coating of the undercoat liquid for the base material by making the undercoat liquid coating section into a state of running out of the liquid.

2. A coating apparatus according to claim 1, wherein the liquid run-out section is formed as a liquid-supply stopping section which makes the undercoat liquid coating section into a state of running out of the liquid by stopping supply of the liquid to the undercoat liquid coating section.

3. A coating apparatus according to claim 1, wherein the undercoat liquid coating section is formed as a bar coating device including an undercoating bar which rotates in contact with the base material to coat the undercoat liquid thereto; and

the liquid run-out section is formed as a speed reducer which makes the bar coating device into a state of running out of the liquid by reducing the number of rotation of the undercoating bar.

4. A coating apparatus according to claim 1, further comprising an uncoated-portion detecting section which detects occurrence of the uncoated portion at the time of forming the lower layer, wherein

the undercoat liquid coating section coats the undercoat liquid to the uncoated portion when the uncoated-portion detecting section detects occurrence of the uncoated portion.

5. A coating apparatus according to claim 1 further comprising:

a signal output section which outputs a signal relating to generation of the uncoated portion and a signal relating to restarting of coating of the first coating liquid;

a calculating section which, based on the signal from the signal output section, calculates a timing at which the uncoated portion reaches the undercoat liquid coating section and a timing at which the lower layer formed again reaches the undercoat liquid coating section; and

a control section which, based on the calculating result of the calculating section, instructs coating the undercoat liquid on the uncoated portion or stopping of coating the undercoat liquid.

6. A coating apparatus according to claim 5, wherein the upstream-side coating section is disposed so as to move close to or away from the base material.

7. A coating apparatus according to claim 6, wherein the signal relating to generation of the uncoated portion and the signal relating to restarting of coating of the first coating liquid are a removal signal indicating the upstream-side coating section being away from the base material and a contact signal indicating the upstream-side coating section contacting the base material.

8. A coating apparatus according to claim 3, wherein the speed reducer makes the bar coating device into a state of running out of the liquid without stopping rotating of the undercoating bar.

9. A coating apparatus which forms a plurality of layers on a continuously travelling base material, comprising:

an upstream-side coating section which coats a first coating liquid to the base material to form a lower layer;

a downstream-side coating section disposed at the downstream side of the upstream-side coating section in a direction to which the base material is conveyed, and coating, onto the lower layer, a second coating liquid of which composition is the same as or different from that of the first coating liquid, to thereby form an upper layer;

an undercoat liquid coating section disposed between the downstream-side coating section and the upstream-side

coating section in the direction to which the base material is conveyed, the undercoat liquid coating section, when an uncoated portion, which is a portion to which no first coating liquid is coated, is generated at a time of forming the lower layer, coating the undercoat liquid to the uncoated portion.

10. A coating apparatus according to claim 9, further comprising an uncoated-portion detecting section which detects occurrence of the uncoated portion at the time of forming the lower layer, wherein

the undercoat liquid coating section coats the undercoat liquid to the uncoated portion when the uncoated-portion detecting section detects occurrence of the uncoated portion.

11. A coating method in which a plurality of layers are formed on a strip-shaped base material in a state of continuously travelling, wherein,

when a first coating liquid is coated to the base material to form a lower layer, and a second coating liquid of which composition is the same as or different from that of the first coating liquid is coated onto the lower layer to thereby form an upper layer,

if an uncoated portion, which is a portion to which no first coating liquid is coated, is generated at a time of

forming the lower layer, an undercoat liquid is coated to the uncoated portion by making an undercoat liquid coating section, which coats the undercoat liquid to the uncoated portion, into contact state, and

if the lower layer is formed again, coating of the undercoat liquid is stopped by the undercoat liquid coating section being removed from the base material, and

at the latest, just before the undercoat liquid coating section is removed from the base material, coating of the undercoat liquid to the base material is stopped by making the undercoat liquid coating section into a state of running out of the liquid.